UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,903	07/17/2003	Daniel John Park	SLA1291	2834

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THOMAS R. BERTHOLD
18938 CONGRESS JUNCTION COURT
SARATOGA, CA 95070

EXAMINER
SMITH, MARCUS

ART UNIT	PAPER NUMBER
2619	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>30 November 2007</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,2,4-8,10,13-16 and 20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,2,4-8,10,13-16 and 20</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-2, 4-8, 10, 13-16, and 20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kshirsagar et al. (US 6,516,00) in view of Datta et al. (US 6,295,276).

with regard to claims 1 and 14, Kshirsagar et al. teaches:

A method of controlling transmission of media access control (MAC) data

packets with MAC headers in a power line communication (PLC) local area network

(LAN) having a plurality of PLC stations and at least one PLC media access control

(MAC) bridging device for bridging packets between the PLC LAN and a non-PLC LAN,

the method comprising:

providing a PLC central coordinator (CRP server, 203) in the PLC LAN for

managing allocation of PLC LAN resources (column 7, lines 27-35: The examiner views

the registration procedure is method of managing allocation resources to different

hosts.); and

assigning a temporary_ equipment identifier (TEI) (IP address) for each PLC

station and PLC MAC bridging device (figure 3, cache 311 for IP address for the each

device, column 4, lines 50-67 to column 5, lines1-15);

(Figure 7)

at a PLC MAC bridging device (B1, 710), for a packet from a non-PLC source

station (E1, 715) wherein the packet has a MAC header containing the source MAC

address and the destination MAC address for a PLC destination station (column 10,

lines 37-44), replacing the source MAC address and destination MAC address in the

MAC header with a ConnectionID (VCI) (Column 10, lines 44-50: The examiner views

maps a MAC address to ATM address as a method removing the MAC header and

replacing with ATM header (VCI) of a bridged packet.), the ConnectionID identifying the

PLC MAC bridging device's TEI and the PLC destination station's TEI (see figure 3's

cache); and

transmitting said packet with said ConnectionID from the PLC MAC bridging

device to the PLC destination station (column 10, lines 50-55).

with regard to claim 14)

A method of controlling bridging media access control (MAC) data packets with

MAC headers between stations in a power line communication (PLC) local area network

(LAN) having at least one PLC MAC bridging device and stations in a non-PLC LAN, the

method comprising (see claim 1):

providing a PLC central coordinator in the PLC LAN for managing allocation of

PLC LAN resources (see claim 1);

assigning a temporary equipment identifier (TEI) for each PLC station and PLC

MAC bridging device (see claim 1); and

(figure 8, which is the combination of figure 6-7)

for a first packet bridged from a non-PLC source station wherein said first packet

has a non-PLC MAC header containing the source 48-bit MAC address and the

destination 48-bit MAC address for a PLC destination station (column 10, lines 60-67),

modifying said first bridged packet by replacing the 48-bit MAC addresses of the non-

PLC MAC header with a ConnectionID containing the TEI of the PLC destination station

(column 11, lines 1-12: also the process bridge B1 similar to figure 7); and

for a second packet bridged from a PLC source station wherein said second

packet has a PLC MAC header with a ConnectionID containing the TEI of the PLC

source station and the TEI of said at least one bridging device, modifying said second

bridged packet by replacing the ConnectionID of the PLC MAC header with the 48-bit

MAC address of the non- PLC destination station (column 11, lines 1-12: also see the

process of bridge b2 similar to figure 6).

(with regard to claims 1 and 14)

Kshirsagar et al. discloses all of the subject matter as described above except for

a method of transmitting packets over power lines in a local area network.

Datta et al. teaches a controller (central coordinator) for nodes 102 in a LAN to

connect to WAN through routers (bridge devices) (figure 2: column 5, lines 53-65).

Wires connect the nodes in the LAN to each other and those wires can be modulated

AC power lines (column 1, lines 45-50) in order to use bandwidth more efficiently and

delay expense upgrades to line technology (column 2, lines 55-60).

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to use power line communication in LAN as taught by Datta et al. in the system of Kshirsagar et al. in order to use bandwidth more efficiently and delay expense upgrades to line technology.

with regard to claim 2, Kshirsagar et al. teaches (figure 6):

The method of claim 1, further comprising:

at the PLC MAC bridging device (630), for a packet from a PLC source station wherein the packet has a MAC header containing a ConnectionID, the ConnectionID identifying the PLC source station's TEI and the PLC MAC bridging device's TEI, replacing the ConnectionID in the MAC header with the source MAC address and destination MAC address for a non-PLC destination station (column 10, lines 15-25); and

transmitting said packet with said source and destination MAC addresses from the PLC MAC bridging device to the non-PLC destination station.(column 10, lines 25-30).

with regard to claim 4, Kshirsagar et al. teaches:

The method of claim 1 wherein the PLC MAC bridging device caches a source TEI and a source 48-bit MAC address of all broadcast data packets received from other bridge devices on the PLC LAN (column 12, lines 28-42).

with regard to claim 5 (see figure 7), Kshirsagar et al. teaches:

The method of claim 1 wherein a PLC MAC bridging device (710) establishes a connection for bridged traffic only when traffic from a non-PLC LAN (715) source station is received for a destination station on the PLC LAN (730) where the destination station's TEI, bridging device TEI and destination station 48-bit MAC address are cached (711 and 712) in the bridging device (column 10, lines 38-59).

with regard to claim 6 (see figure 6), Kshirsagar et al. teaches:

The method of claim 1 wherein the PLC MAC (630) bridging device establishes a connection for bridged traffic only when traffic from a PLC LAN (610) source station is received for a destination station not on the PLC LAN (615) where the bridging device's TEI and destination station 48-bit MAC address are cached (612 or 611) in the bridging device (column 6, lines 46-67 through column 10, lines 1-38).

with regard to claims 7 and 18, Kshirsagar et al. teaches:

The method of claim 1/14 which includes establishing a unique connection for every pair of stations that cross a PLC MAC bridging device (column 9, lines 37-51: The VCI is associated with the request MAC address can be view as the unique connection.).

with regard to claims 8 and 19, Kshirsagar et al. teaches:

The method of claim 1/14 which includes bridging packets across the PLC LAN only in PLC bridging devices (column 9, lines 37-41:Teaches how the bridge is used for MAC frame in ATM network. And Figure 9, column 11, lines 12-26: Teaches how the bridge does not bridged packets if the connection is not over ATM network.).

with regard to claim 9, Kshirsagar et al. teaches:

The method of claim 1 which includes removing 48-bit MAC addresses of the MAC header for bridged packets (column 10, lines 40-50: The examiner views maps a MAC address to ATM address as a method removing the MAC header and replacing with ATM header (address) of a bridged packet.).

with regard to claim 10 (see figure 6 or figure 7), Kshirsagar et al. teaches:

The method of claim 1 which includes interworking the bridged packets between the PLC LAN and non-PLC LAN using the ConnectionID and TEIs only in the PLC LAN and using 48-bit MAC addresses outside the PLC LAN (column 7, lines 38-59).

with regard to claim 11, Kshirsagar et al. teaches:

(column 10, lines 40-50: The examiner views maps a MAC address to ATM address as a method removing the MAC header and replacing with ATM header (VCI) of a bridged packet.).

with regard to claim 12, Kshirsagar et al. teaches:

(column 10, lines 24-35).

with regard to claims 13 and 20, Kshirsagar et al. teaches:

The method of claim 1/14 which includes, for packet traffic transmitted intra-PLC, identifying a packet's source station and destination station by inspecting the ConnectionID field in the PLC MAC header and referencing a connection table (column 12, lines 28-42).

with regard to claim 15, Kshirsagar et al. teaches:

The method of claim 14 wherein a PLC MAC bridge establishes a connection for bridged traffic only when traffic from a non-PLC LAN source station is received for a destination station on the PLC LAN where the destination station's TEI, bridge TEI and destination station 48-bit MAC address are cached in the bridge (column 10, lines 38-59); and

wherein a PLC MAC bridge establishes a connection for bridged traffic only when traffic from a PLC LAN source station is received for a destination station not on the PLC LAN where the bridge TEI and destination station 48-bit MAC address are cached in the bridge (column 6, lines 46-67 through column 10, lines 1-38).

with regard to claim 16, Kshirsagar et al. teaches:

The method of claim 14 (column 9, lines 37-45),

wherein the PLC MAC bridging device caches a source TEI and a source 48-bit MAC address of all broadcast data packets received from other bridge devices on the same PLC LAN (column 12, lines 28-42).

Response to Amendment

3.   The amendment filed 11/30/07 is insufficient to overcome the rejection of claims 1-2, 4-8, 10, 13-16, and 18-20 based upon Kshirsagar et al. and Datta et al as set forth in the last Office action because: The examiner views mapping ATM VCI to MAC address and vice versa in the bridge as the method replacing MAC address with ATM address (VCI) and vice versa.
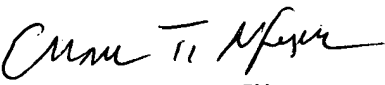
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus R. Smith whose telephone number is 571 270 1096. The examiner can normally be reached on Mon-Fri. 7:30 am - 5:00 pm every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRS 12/17/07

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